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EXAMINER

BELLO, AGUSTIN

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/886,153

Applicant(s)

GERSTEL ET AL

Examiner

Agustin Bello

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-86 is/are pending in the application.
- 4a) Of the above claim(s) 18-50 and 59-71 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-17, 51, 52, 54-58 and 72-85 is/are rejected.
- 7) ☒ Claim(s) 5-9 and 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The amendment filed 6/13/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the bi-directional multiplexing/demultiplexing device, and the multiplexer and demultiplexer embodied either as separate devices or a single device.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Election/Restrictions***

2. Applicant's election with traverse of Species I in the reply filed on 11/22/04 is acknowledged. The traversal is on the ground(s) that claims 5-9 and 53 should have been included with the original elected species. This argument is found persuasive because the claims do read on the elected species according to the applicant's explanation.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-17 and 51-58, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant first claims a bi-directional multiplexing/demultiplexing

device, then later amends the specification to include the claimed bi-directional multiplexing/demultiplexing device. Having done so, the question is raised as to whether or not the applicant, at the time the application was filed, had possession of the claimed invention.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 13-14, 17, 51-52, 56, 72-85, *as best understood in view of the 35 USC §112 rejection above*, are rejected under 35 U.S.C. 102(e) as being anticipated by Sato (U.S. Patent No. 6,477,288).

Regarding claims 1, 51, 72-76, 84, Sato teaches a communication network, comprising: a plurality of first communication paths (leftmost reference numeral 5, 7 in Figure 5A); a plurality of second communication paths (rightmost reference numeral 5, 7 in Figure 5A); and a plurality of nodes (as described throughout the specification), adjacent ones of said nodes being coupled together through at least one of said first communication paths and at least one of said second communication paths (e.g. both working and protection path shown in Figure 5A), each node comprising: a plurality of switches (reference numeral 13-14, 16-17 Figure 5A), including a first switch (reference numeral 13 in Figure 5A) and a second switch (reference numeral 14 in Figure 5A), each having a first terminal (circles seen in Figure 5A), a second terminal (circles seen in Figure 5A), a third terminal (circles seen in Figure 5A), and a fourth terminal (circles seen in

Art Unit: 2633

Figure 5A), wherein the first terminal (uppermost circle of switch 13 in Figure 5A) and the second terminal (penultimate circle from top of switch 13 in Figure 5A) of said first switch are coupled through at least one of said first communication paths (reference numeral 7 in Figure 5A) and at least one of said second communication paths (reference numeral 5 in Figure 5A) , respectively, to a first, adjacent one of the nodes (e.g. nodes to the left of the node of Figure 5A), the first terminal (uppermost circle of switch 14 in Figure 5A) and the second terminal (penultimate circle from top of switch 14 in Figure 5A) of said second switch (reference numeral 14 in Figure 5A) are coupled through at least one other first communication path (rightmost reference numeral 7 in Figure 5A) and at least one other second communication path (rightmost reference numeral 5 in Figure 5A), respectively, to a second, adjacent one of the nodes (e.g. nodes to the right of the node of Figure 5A), and the third terminal (uppermost and rightmost circle of switch 13 in Figure 5A) of said first switch is coupled to the third terminal of said second switch (uppermost and leftmost circle of switch 14 in Figure 5A) through at least one third communication path (reference numeral 30 in Figure 5A); at least one multiplexing/demultiplexing device (reference numeral 11 in Figure 5A) bidirectionally coupled to each of an external communication node (e.g. the add/drop client inherent in Figure 5A) and the fourth terminal of each first (reference numeral 13 in Figure 5A) and second switch (reference numeral 14 in Figure 5A), said at least one multiplexing/demultiplexing device for forwarding signals being communicated between the fourth terminals of said first and second switches (as seen in Figure 5A) and for forwarding signals being communicated between the external communication node and the fourth terminal of respective ones of said first and second switches (as seen in Figure 5A); and at least one controller (reference numeral 24 in Figure 5A)

coupled to said first and second switches, said at least one controller being responsive to applied input information (e.g. from reference numeral 19, 21 in Figure 5A) for controlling at least one of said first and second switches to cause that at least one switch to selectively couple at least one of (a) the first and second adjacent nodes together by way of at least one of the first and second communication paths coupled to that at least one switch, and (b) the external communication node and at least one of the first and second, adjacent nodes by way of at least one of the first and second communication paths coupled to that at least one switch.

Regarding claim 2, Sato teaches that each of said first and second switches is a 4X4 optical switch (as indicated by the 4 input 4 output nature of each of the optical switches shown in Figure 5A).

Regarding claims 3, 52, 78, 79, 83, Sato teaches said at least one multiplexing/demultiplexing device is a Wavelength- Division-Multiplexed (WDM) device (column 24 lines 35-40).

Regarding claim 4, Sato teaches that said at least one multiplexing/demultiplexing device includes at least one add/drop multiplexer/demultiplexer (column 7 lines 50-55).

Regarding claims 13, 56, 77, 82, and 85, Sato teaches each node further comprises at least one monitor (column 7 lines 53-59) for detecting the occurrence of a failure in at least one of said first and second communication paths, and wherein said at least one monitor responds to detecting a failure in that at least one communication path by applying the input information to said at least one controller (reference numeral 24 in Figure 5A).

Art Unit: 2633

Regarding claim 14, Sato teaches that said at least one monitor detects the occurrence of a failure in the at least one communication path by detecting the substantial absence of light in that path (e.g. "loss of signal" in column 7 lines 50-59).

Regarding claims 17, 80, 81, Sato teaches that said plurality of nodes are coupled together through said first and second communication paths, and form a loop configuration (Figure 16).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 10-12, 54-55, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato.

Regarding claims 10-12, 54-55, 86, Sato teaches fails to specifically teach the plurality of switch configurations claimed. However, Sato does teach that any of number of switch connection configurations could be made in order to provide the required operation of the optical switching node (as noted throughout Sato). Furthermore, Sato teaches that the controller makes logical decisions on the operation of the optical switches based on failure information received or the detection of the loss of signal (reference numeral 19-22 in Figure 5A). Moreover, it is apparent from Figure 5A that the "loop-back" switch function is well known in the art and supported by the system of Sato. One skilled in the art would clearly have recognized from the disclosure of Sato that a variety of switching configurations would have been possible including

Art Unit: 2633

those claimed by the applicant. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ the claimed switch configurations in the system of Sato.

9. Claims 15, 16, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Sharma (U.S. Patent No. 5,986,783).

Regarding claims 15, 16, 57, and 58, Sato teaches said at least one controller is coupled to at least one of the other nodes of the communication network through at least one of said first and second communication paths (column 15 lines 62-67), and wherein said at least one controller is responsive to the input information being applied thereto by the at least one monitor, but differs from the claimed invention in that Sato fails to specifically teach notifying the at least one other node of the detected failure by way of that at least one communication path. However, Sharma teaches that this is well known in the art (column 16 lines 1-3). One skilled in the art would have been motivated to notify the at least one other node of the detected failure by way of that at least one communication path in order to allow the adjacent nodes to reconfigure themselves accordingly (column 16 lines 1-3 of Sharma).

#### ***Allowable Subject Matter***

10. Claims 5-9 and 53 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

11. Applicant's arguments with respect to claim 6/13/05 have been considered but are moot in view of the new ground(s) of rejection.



Art Unit: 2633

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

  
**AGUSTIN BELLO**  
**PRIMARY EXAMINER**